

SEQUENCE LISTING

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Val Cys Gly Asp Arg Gly Phe Tyr Phe Asn Lys Pro Thr Gly Tyr Gly
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Ser Ser Ser Arg Arg Ala Pro Gln Thr Gly Ile Val Asp Glu Cys Cys
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Phe Arg Ser Cys Asp Leu Arg Arg Leu Glu Met Tyr Cys Ala Pro Leu
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Lys Pro Ala Lys Ser Ala Arg Ser Val Arg Ala Gln Arg His Thr Asp
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Gly Pro Glu Thr Leu Cys Gly Ala Glu Leu Val Asp Ala Leu Gln Phe
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Val Cys Gly Asp Arg Gly Phe Tyr Phe Asn Lys Pro Thr Gly Tyr Gly
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Ser Ser Ser Arg Arg Ala Pro Gln Thr Gly Ile Val Asp Glu Cys Cys
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Phe Arg Ser Cys Asp Leu Arg Arg Leu Glu Met Tyr Cys Ala Pro Leu
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Lys Pro Ala Lys Ser Ala Arg Ser Val Arg Ala Gln Arg His Thr Asp
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Asn	Gly	Phe	Tyr	His	Ser	Arg	Gln	Cys	Glu	Thr	Ser	Met	Asp	Gly	Glu				
210						215					220								
Ala	Gly	Leu	Cys	Trp	Cys	Val	Tyr	Pro	Trp	Asn	Gly	Lys	Arg	Ile	Pro				
225					230					235					240				
Gly	Ser	Pro	Glu	Ile	Arg	Gly	Asp	Pro	Asn	Cys	Gln	Ile	Tyr	Phe	Asn				
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Val Gln Asn

<210> 8

<211> 1433

<212> DNA

<213> Homo sapiens

<400> 8

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ccgctgctgc tgetgctact gggcgcgagt ggcgggcgcg cgggggcgcg cgcgagggtg	240
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1433

<210> 9

<211> 328

<212> PRT

<213> Homo sapiens

<400> 9

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Gly Gly Gly Gly Ala Arg Ala Glu Val Leu Phe Arg Cys Pro Pro Cys
35 40 45

Thr Pro Glu Arg Leu Ala Ala Cys Gly Pro Pro Pro Val Ala Pro Pro
50 55 60

Ala Ala Val Ala Ala Val Ala Gly Gly Ala Arg Met Pro Cys Ala Glu
65 70 75 80

Leu Val Arg Glu Pro Gly Cys Gly Cys Cys Ser Val Cys Ala Arg Leu
85 90 95

Glu Gly Glu Ala Cys Gly Val Tyr Thr Pro Arg Cys Gly Gln Gly Leu
100 105 110

Arg Cys Tyr Pro His Pro Gly Ser Glu Leu Pro Leu Gln Ala Leu Val
115 120 125

Met Gly Glu Gly Thr Cys Glu Lys Arg Arg Asp Ala Glu Tyr Gly Ala
130 135 140

Ser Pro Glu Gln Val Ala Asp Asn Gly Asp Asp His Ser Glu Gly Gly
145 150 155 160

Leu Val Glu Asn His Val Asp Ser Thr Met Asn Met Leu Gly Gly Gly
165 170 175

Gly Ser Ala Gly Arg Lys Pro Leu Lys Ser Gly Met Lys Glu Leu Ala
180 185 190

Val Phe Arg Glu Lys Val Thr Glu Gln His Arg Gln Met Gly Lys Gly
195 200 205

Gly Lys His His Leu Gly Leu Glu Glu Pro Lys Lys Leu Arg Pro Pro
210 215 220

Pro Ala Arg Thr Pro Cys Gln Gln Glu Leu Asp Gln Val Leu Glu Arg
225 230 235 240

Ile Ser Thr Met Arg Leu Pro Asp Glu Arg Gly Pro Leu Glu His Leu
245 250 255

Tyr Ser Leu His Ile Pro Asn Cys Asp Lys His Gly Leu Tyr Asn Leu
260 265 270

Lys Gln Cys Lys Met Ser Leu Asn Gly Gln Arg Gly Glu Cys Trp Cys
275 280 285

Val Asn Pro Asn Thr Gly Lys Leu Ile Gln Gly Ala Pro Thr Ile Arg
290 295 300

Gly Asp Pro Glu Cys His Leu Phe Tyr Asn Glu Gln Gln Glu Ala Cys
305 310 315 320

Gly Val His Thr Gln Arg Met Gln
325

<210> 10
<211> 2506
<212> DNA
<213> Homo sapiens

<400> 10
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<210> 11
 <211> 291
 <212> PRT
 <213> Homo sapiens

<400> 11

Met Gln Arg Ala Arg Pro Thr Leu Trp Ala Ala Ala Leu Thr Leu Leu
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Val Leu Leu Arg Gly Pro Pro Val Ala Arg Ala Gly Ala Ser Ser Gly
 20 25 30

Gly Leu Gly Pro Val Val Arg Cys Glu Pro Cys Asp Ala Arg Ala Leu
 35 40 45

Ala Gln Cys Ala Pro Pro Pro Ala Val Cys Ala Glu Leu Val Arg Glu
 50 55 60

Pro Gly Cys Gly Cys Cys Leu Thr Cys Ala Leu Ser Glu Gly Gln Pro
 65 70 75 80

Cys Gly Ile Tyr Thr Glu Arg Cys Gly Ser Gly Leu Arg Cys Gln Pro
 85 90 95

Ser Pro Asp Glu Ala Arg Pro Leu Gln Ala Leu Leu Asp Gly Arg Gly
 100 105 110

Leu Cys Val Asn Ala Ser Ala Val Ser Arg Leu Arg Ala Tyr Leu Leu
 115 120 125

Pro Ala Pro Pro Ala Pro Gly Asn Ala Ser Glu Ser Glu Glu Asp Arg
 130 135 140

Ser Ala Gly Ser Val Glu Ser Pro Ser Val Ser Ser Thr His Arg Val
 145 150 155 160

Ser Asp Pro Lys Phe His Pro Leu His Ser Lys Ile Ile Ile Ile Lys
 165 170 175

Lys Gly His Ala Lys Asp Ser Gln Arg Tyr Lys Val Asp Tyr Glu Ser
 180 185 190

Gln Ser Thr Asp Thr Gln Asn Phe Ser Ser Glu Ser Lys Arg Glu Thr
 195 200 205

Glu Tyr Gly Pro Cys Arg Arg Glu Met Glu Asp Thr Leu Asn His Leu
 210 215 220

Lys Phe Leu Asn Val Leu Ser Pro Arg Gly Val His Ile Pro Asn Cys
 225 230 235 240

Asp Lys Lys Gly Phe Tyr Lys Lys Lys Gln Cys Arg Pro Ser Lys Gly
 245 250 255

Arg Lys Arg Gly Phe Cys Trp Cys Val Asp Lys Tyr Gly Gln Pro Leu
 260 265 270

Pro Gly Tyr Thr Thr Lys Gly Lys Glu Asp Val His Cys Tyr Ser Met
 275 280 285

Gln Ser Lys
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<210> 12
 <211> 2160
 <212> DNA
 <213> Homo sapiens
 <400> 12

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<210> 13
 <211> 258
 <212> PRT
 <213> Homo sapiens

<400> 13

Met Leu Pro Leu Cys Leu Val Ala Ala Leu Leu Leu Ala Ala Gly Pro
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Gly Pro Ser Leu Gly Asp Glu Ala Ile His Cys Pro Pro Cys Ser Glu
 20 25 30

Glu Lys Leu Ala Arg Cys Arg Pro Pro Val Gly Cys Glu Glu Leu Val
 35 40 45

Arg Glu Ala Gly Cys Gly Cys Cys Ala Thr Cys Ala Leu Gly Leu Gly
 50 55 60

Met Pro Cys Gly Val Tyr Thr Pro Arg Cys Gly Ser Gly Leu Arg Cys
 65 70 75 80

Tyr Pro Pro Arg Gly Val Glu Lys Pro Leu His Thr Leu Met His Gly
 85 90 95

Gln Gly Val Cys Met Glu Leu Ala Glu Ile Glu Ala Ile Gln Glu Ser
 100 105 110

Leu Gln Pro Ser Asp Lys Asp Glu Gly Asp His Pro Asn Asn Ser Phe
 115 120 125

Ser Pro Cys Ser Ala His Asp Arg Arg Cys Leu Gln Lys His Phe Ala
 130 135 140

Lys Ile Arg Asp Arg Ser Thr Ser Gly Gly Lys Met Lys Val Asn Gly
 145 150 155 160

Ala Pro Arg Glu Asp Ala Arg Pro Val Pro Gln Gly Ser Cys Gln Ser
 165 170 175

Glu Leu His Arg Ala Leu Glu Arg Leu Ala Ala Ser Gln Ser Arg Thr
 180 185 190

His Glu Asp Leu Tyr Phe Ile Pro Ile Pro Asn Cys Asp Arg Asn Gly
 195 200 205

Asn Phe His Pro Lys Gln Cys His Pro Ala Leu Asp Gly Gln Arg Gly
 210 215 220

Lys Cys Trp Cys Val Asp Arg Lys Thr Gly Val Lys Leu Pro Gly Gly
 225 230 235 240

Leu Glu Pro Lys Gly Glu Leu Asp Cys His Gln Leu Ala Asp Ser Phe
 245 250 255

Arg Glu

<210> 14
 <211> 1722
 <212> DNA
 <213> Homo sapiens

<400> 14
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<210> 15
 <211> 272
 <212> PRT
 <213> Homo sapiens

 <400> 15

Met Val Leu Leu Thr Ala Val Leu Leu Leu Leu Ala Ala Tyr Ala Gly
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 Lys Ala Leu Ser Met Cys Pro Pro Ser Pro Leu Gly Cys Glu Leu Val
 35 40 45
 Lys Glu Pro Gly Cys Gly Cys Cys Met Thr Cys Ala Leu Ala Glu Gly
 50 55 60
 Gln Ser Cys Gly Val Tyr Thr Glu Arg Cys Ala Gln Gly Leu Arg Cys
 65 70 75 80
 Leu Pro Arg Gln Asp Glu Glu Lys Pro Leu His Ala Leu Leu His Gly
 85 90 95
 Arg Gly Val Cys Leu Asn Glu Lys Ser Tyr Arg Glu Gln Val Lys Ile
 100 105 110
 Glu Arg Asp Ser Arg Glu His Glu Glu Pro Thr Thr Ser Glu Met Ala
 115 120 125
 Glu Glu Thr Tyr Ser Pro Lys Ile Phe Arg Pro Lys His Thr Arg Ile
 130 135 140
 Ser Glu Leu Lys Ala Glu Ala Val Lys Lys Asp Arg Arg Lys Lys Leu
 145 150 155 160
 Thr Gln Ser Lys Phe Val Gly Gly Ala Glu Asn Thr Ala His Pro Arg
 165 170 175
 Ile Ile Ser Ala Pro Glu Met Arg Gln Glu Ser Glu Gln Gly Pro Cys
 180 185 190
 Arg Arg His Met Glu Ala Ser Leu Gln Glu Leu Lys Ala Ser Pro Arg
 195 200 205
 Met Val Pro Arg Ala Val Tyr Leu Pro Asn Cys Asp Arg Lys Gly Phe
 210 215 220

Tyr Lys Arg Lys Gln Cys Lys Pro Ser Arg Gly Arg Lys Arg Gly Ile
 225 230 235 240

Cys Trp Cys Val Asp Lys Tyr Gly Met Lys Leu Pro Gly Met Glu Tyr
 245 250 255

Val Asp Gly Asp Phe Gln Cys His Thr Phe Asp Ser Ser Asn Val Glu
 260 265 270

<210> 16
 <211> 952
 <212> DNA
 <213> Homo sapiens

<400> 16
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 gtctcaggag ggaggggag gagtgcgggg tctacacccc taactgcgcc ccaggactgc 300
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 aaaccgaggg cctcaatcca ccttcaggcc ccgccccatg ggcccctcac cgctgggtcg 900
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<210> 17
 <211> 240
 <212> PRT

<213> Homo sapiens

<400> 17

Met Thr Pro His Arg Leu Leu Pro Pro Leu Leu Leu Leu Leu Ala Leu
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Leu Leu Ala Ala Ser Pro Gly Gly Ala Leu Ala Arg Cys Pro Gly Cys
20 25 30

Gly Gln Gly Val Gln Ala Gly Cys Pro Gly Gly Cys Val Glu Glu Glu
35 40 45

Asp Gly Gly Ser Pro Ala Glu Gly Cys Ala Glu Ala Glu Gly Cys Leu
50 55 60

Arg Arg Glu Gly Gln Glu Cys Gly Val Tyr Thr Pro Asn Cys Ala Pro
65 70 75 80

Gly Leu Gln Cys His Pro Pro Lys Asp Asp Glu Ala Pro Leu Arg Ala
85 90 95

Leu Leu Leu Gly Arg Gly Arg Cys Leu Pro Ala Arg Ala Pro Ala Val
100 105 110

Ala Glu Glu Asn Pro Lys Glu Ser Lys Pro Gln Ala Gly Thr Ala Arg
115 120 125

Pro Gln Asp Val Asn Arg Arg Asp Gln Gln Arg Asn Pro Gly Thr Ser
130 135 140

Thr Thr Pro Ser Gln Pro Asn Ser Ala Gly Val Gln Asp Thr Glu Met
145 150 155 160

Gly Pro Cys Arg Arg His Leu Asp Ser Val Leu Gln Gln Leu Gln Thr
165 170 175

Glu Val Tyr Arg Gly Ala Gln Thr Leu Tyr Val Pro Asn Cys Asp His
180 185 190

Arg Gly Phe Tyr Arg Lys Arg Gln Cys Arg Ser Ser Gln Gly Gln Arg
195 200 205

Arg Gly Pro Cys Trp Cys Val Asp Arg Met Gly Lys Ser Leu Pro Gly
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Ser Pro Asp Gly Asn Gly Ser Ser Ser Cys Pro Thr Gly Ser Ser Gly
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 <211> 1124
 <212> DNA
 <213> Homo sapiens

<400> 18
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 ccgcgacgcg tgcggctgct gccctatgtg cggccgcggc gagggcgagc cgtgcggggg 240
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<211> 282
 <212> PRT
 <213> Homo sapiens

<400> 19

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Gly Pro Cys Glu Pro Ala Ser Cys Pro Pro Leu Pro Pro Leu Gly Cys
 35 40 45

Leu Leu Gly Glu Thr Arg Asp Ala Cys Gly Cys Cys Pro Met Cys Ala
 50 55 60

Arg Gly Glu Gly Glu Pro Cys Gly Gly Gly Gly Ala Gly Arg Gly Tyr
 65 70 75 80

Cys Ala Pro Gly Met Glu Cys Val Lys Ser Arg Lys Arg Arg Lys Gly
 85 90 95

Lys Ala Gly Ala Ala Ala Gly Gly Pro Gly Val Ser Gly Val Cys Val
 100 105 110

Cys Lys Ser Arg Tyr Pro Val Cys Gly Ser Asp Gly Thr Thr Tyr Pro
 115 120 125

Ser Gly Cys Gln Leu Arg Ala Ala Ser Gln Arg Ala Glu Ser Arg Gly
 130 135 140

Glu Lys Ala Ile Thr Gln Val Ser Lys Gly Thr Cys Glu Gln Gly Pro
 145 150 155 160

Ser Ile Val Thr Pro Pro Lys Asp Ile Trp Asn Val Thr Gly Ala Gln
 165 170 175

Val Tyr Leu Ser Cys Glu Val Ile Gly Ile Pro Thr Pro Val Leu Ile
 180 185 190

Trp Asn Lys Val Lys Arg Gly His Tyr Gly Val Gln Arg Thr Glu Leu

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Leu Pro Gly Asp Arg Asp Asn Leu Ala Ile Gln Thr Arg Gly Gly Pro		
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Glu Lys His Glu Val Thr Gly Trp Val Leu Val Ser Pro Leu Ser Lys		
225	230	235 240
Glu Asp Ala Gly Glu Tyr Glu Cys His Ala Ser Asn Ser Gln Gly Gln		
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Pro Val Lys Lys Gly Glu Gly Ala Glu Leu		
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 <212> DNA
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<210> 21
 <211> 605
 <212> PRT
 <213> Homo sapiens

<400> 21

Met Ala Leu Arg Lys Gly Gly Leu Ala Leu Ala Leu Leu Leu Ser

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Pro	Gly	Glu	Ala	Glu	Gly	Pro	Ala	Cys	Pro	Ala	Ala	Cys	Val	Cys	Ser				
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Tyr	Asp	Asp	Asp	Ala	Asp	Glu	Leu	Ser	Val	Phe	Cys	Ser	Ser	Arg	Asn				
	50					55					60								
Leu	Thr	Arg	Leu	Pro	Asp	Gly	Val	Pro	Gly	Gly	Thr	Gln	Ala	Leu	Trp				
65					70					75					80				
Leu	Asp	Gly	Asn	Asn	Leu	Ser	Ser	Val	Pro	Pro	Ala	Ala	Phe	Gln	Asn				
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Leu	Ser	Ser	Leu	Gly	Phe	Leu	Asn	Leu	Gln	Gly	Gly	Gln	Leu	Gly	Ser				
			100					105					110						
Leu	Glu	Pro	Gln	Ala	Leu	Leu	Gly	Leu	Glu	Asn	Leu	Cys	His	Leu	His				
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Leu	Glu	Arg	Asn	Gln	Leu	Arg	Ser	Leu	Ala	Leu	Gly	Thr	Phe	Ala	His				
	130					135					140								
Thr	Pro	Ala	Leu	Ala	Ser	Leu	Gly	Leu	Ser	Asn	Asn	Arg	Leu	Ser	Arg				
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Leu	Glu	Asp	Gly	Leu	Phe	Glu	Gly	Leu	Gly	Ser	Leu	Trp	Asp	Leu	Asn				
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Leu	Gly	Trp	Asn	Ser	Leu	Ala	Val	Leu	Pro	Asp	Ala	Ala	Phe	Arg	Gly				
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Leu	Gly	Ser	Leu	Arg	Glu	Leu	Val	Leu	Ala	Gly	Asn	Arg	Leu	Ala	Tyr				
		195					200					205							
Leu	Gln	Pro	Ala	Leu	Phe	Ser	Gly	Leu	Ala	Glu	Leu	Arg	Glu	Leu	Asp				
	210					215					220								

Leu Ser Arg Asn Ala Leu Arg Ala Ile Lys Ala Asn Val Phe Val Gln
 225 230 235 240

Leu Pro Arg Leu Gln Lys Leu Tyr Leu Asp Arg Asn Leu Ile Ala Ala
 245 250 255

Val Ala Pro Gly Ala Phe Leu Gly Leu Lys Ala Leu Arg Trp Leu Asp
 260 265 270

Leu Ser His Asn Arg Val Ala Gly Leu Leu Glu Asp Thr Phe Pro Gly
 275 280 285

Leu Leu Gly Leu Arg Val Leu Arg Leu Ser His Asn Ala Ile Ala Ser
 290 295 300

Leu Arg Pro Arg Thr Phe Lys Asp Leu His Phe Leu Glu Glu Leu Gln
 305 310 315 320

Leu Gly His Asn Arg Ile Arg Gln Leu Ala Glu Arg Ser Phe Glu Gly
 325 330 335

Leu Gly Gln Leu Glu Val Leu Thr Leu Asp His Asn Gln Leu Gln Glu
 340 345 350

Val Lys Ala Gly Ala Phe Leu Gly Leu Thr Asn Met Ala Val Met Asn
 355 360 365

Leu Ser Gly Asn Cys Leu Arg Asn Leu Pro Glu Gln Val Phe Arg Gly
 370 375 380

Leu Gly Lys Leu His Ser Leu His Leu Glu Gly Ser Cys Leu Gly Arg
 385 390 395 400

Ile Arg Pro His Thr Phe Thr Gly Leu Ser Gly Leu Arg Arg Leu Phe
 405 410 415

Leu Lys Asp Asn Gly Leu Val Gly Ile Glu Glu Gln Ser Leu Trp Gly
 420 425 430

Leu Ala Glu Leu Leu Glu Leu Asp Leu Thr Ser Asn Gln Leu Thr His
 435 440 445

Leu Pro His Arg Leu Phe Gln Gly Leu Gly Lys Leu Glu Tyr Leu Leu
450 455 460

Leu Ser Arg Asn Arg Leu Ala Glu Leu Pro Ala Asp Ala Leu Gly Pro
465 470 475 480

Leu Gln Arg Ala Phe Trp Leu Asp Val Ser His Asn Arg Leu Glu Ala
485 490 495

Leu Pro Asn Ser Leu Leu Ala Pro Leu Gly Arg Leu Arg Tyr Leu Ser
500 505 510

Leu Arg Asn Asn Ser Leu Arg Thr Phe Thr Pro Gln Pro Pro Gly Leu
515 520 525

Glu Arg Leu Trp Leu Glu Gly Asn Pro Trp Asp Cys Gly Cys Pro Leu
530 535 540

Lys Ala Leu Arg Asp Phe Ala Leu Gln Asn Pro Ser Ala Val Pro Arg
545 550 555 560

Phe Val Gln Ala Ile Cys Glu Gly Asp Asp Cys Gln Pro Pro Ala Tyr
565 570 575

Thr Tyr Asn Asn Ile Thr Cys Ala Ser Pro Pro Glu Val Val Gly Leu
580 585 590

Asp Leu Arg Asp Leu Ser Glu Ala His Phe Ala Pro Cys
595 600 605